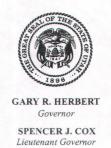
OIL. GAS & MINING



State of Utah DEPARTMENT OF NATURAL RESOURCES

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March 4, 2014

Dan Hall Manager, Groundwater Protection Section Utah Department of Water Quality 195 North 1950 West Salt Lake City, Utah 84114-4870

Subject: Comments to DWQ-issued Permit-by-Rule, Tar Sands Holdings II, Asphalt Ridge 2 Mine,

M/47/0032, Uintah County, Utah

Dear Mr. Hall:

The Utah Division of Oil, Gas and Mining (the Division) is currently reviewing a revision to the Asphalt Ridge 2 Tar Sands mine located in Sections 30 and 31 of Township 4 South, Range 21 East, southwest of Vernal City. The Division approved transfer of the permit on May 29, 2013, from Crown Asphalt Ridge LLC to Tar Sands Holdings II LLC (TSHII). TSHII has taken over the assets of the property by order of U.S. Bankruptcy Court, District of Utah (order dated April 5, 2013, Case No. 11-32259). As a result of the permit transfer on June 18, 2013, the Division issued TSHII a directive requiring that the mine plan and reclamation surety bond be revised and updated.

In a letter (attached) dated September 9, 2013, to Denise Dragoo (who represents the interests of TSHII), the Utah Division of Water Quality (DWQ) indicated it was awaiting data for the sampling and analysis of tailings material. Once the results of the tailings characteristics were evaluated, DWQ would be prepared to issue a permit-by-rule (PBR) to TSHII.

The Division is in agreement with the DWQ conditional decision to issue a PBR to this site. The pilot phase hot water extraction process will likely not introduce any pollutants or other contaminants into the underlying groundwater system. Available data have demonstrated that there is a strong likelihood that the groundwater system below the mine site contained in the Cretaceous-aged Mesa Verde group is a separate groundwater system than the Ashley Valley alluvial aquifer to the east. The DWQ has determined that groundwater beneath the mine site is classified as Class III – Limited Use Groundwater.

The rules require that groundwater quality protection for facilities above a Class III area be established by DWQ based on the following criteria:

- Total dissolved solids may not exceed the greater of 1.25 times the background value or background plus two standard deviations.
- When a contaminant is not present in a detectable amount as a background concentration, the concentration of the pollutant may not exceed the greater of 0.5 times the ground water quality standard, or the limit of detection.

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• When a contaminant is present in a detectable amount as a background concentration, the concentration of the pollutant may not exceed the greater of 1.5 times the background concentration, 0.5 times the ground water quality standard, or background plus two standard deviations; however, in no case will the concentration of a pollutant be allowed to exceed the ground water quality standard.

Depending on the results of the tailings analytical data, the DWQ will authorize that the tailings will either be disposed of in the mine pit if the results meet groundwater protection levels determined by R317-6, or if not, tailings will be disposed of in a lined pit. The Division is concerned that there are currently only two water producing groundwater monitoring wells on the site. These wells are MW-1 and MW-3 and were originally part of a Phase II environmental assessment of the property. MW-2 is a dry well and has not produced any data since 2005. All wells were installed on the east side of the mine pit (see attached figure for reference). No monitoring wells are installed adjacent to the lined pit area, and no monitoring wells are installed to the south and east side of the mine pit. The Division is concerned that if there is no monitoring well network in the vicinity of the tailings disposal area then there will be no effective way to 1) establish the appropriate groundwater protection standards as required by UAC 317-6-4.B, or 2) determine that the tailings are not exceeding those groundwater standards during the operation of the mine.

The Division understands that petroleum-based constituents occur naturally in the Asphalt Ridge formation. A true baseline characterization of those background petroleum constituents is limited since the mine has operated in the past (although it has been idle for several years). In a response letter that DWQ issued to Western Resource Advocates in 2012, DWQ stated that "... although groundwater compliance monitoring is not required by PBR, Crown Asphalt Ridge, CAR [the former permittee], will voluntarily sample the three on-site monitoring wells annually and submit data to DWQ. Therefore, DWQ will require that CAR submit a sampling and analysis plan." The Division respectfully requests that additional groundwater monitoring wells be included in the conditions set forth in the DWQ-issued PBR and be included in the sampling and analysis plan.

Sincerely,

Paul Baker

Minerals Program Manager

April Abate

Environmental Scientist III

PB: AA: eb Attachments: September 9, 2013 Letter; Figure 2 Groundwater Seepage Area cc: Denise Dragoo, Snell and Wilmer (ddragoo@swlaw.com)